



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Elliott Richelson et al. Art Unit : 1636
Serial No. : 10/799,238 Examiner : Unknown
Filed : March 12, 2004
Title : USING POLYAMIDE NUCLEIC ACID OLIGOMERS TO ENGENDER A
BIOLOGICAL RESPONSE

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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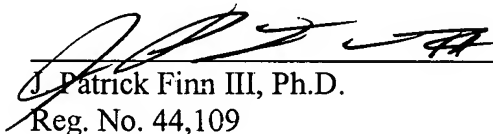
The following correspondence relating to this application is enclosed for filing:

1. Information Disclosure Statement (1 page);
2. Form PTO-1449 (4 pages);
3. Copies of Cited Documents (3 references); and
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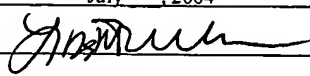

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INFORMATION DISCLOSURE STATEMENT


Applicant submits the references listed on the attached form PTO-1449.

Under 35 USC §120, this application relies on the earlier filing date of application serial number 09/168,791, filed on October 8, 1998. The following references were submitted to and/or cited by the Office in the prior application and, therefore, are not provided in this application: AA through AQQQ.

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Respectfully submitted,

Date: July 23, 2004


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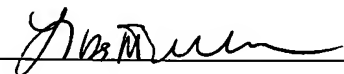
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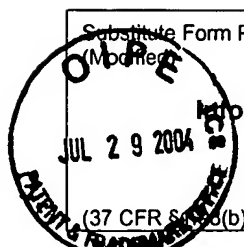
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	Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 07039-126002	Application No. To Be Assigned
	Information Disclosure Statement by Applicant (Use several sheets if necessary)			Applicant Elliott Richelson et al.
	Filing Date March 11, 2004		Group Art Unit Unknown	

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	6,156,501	12/2000	McGall et. al.			
	AB	5,786,461	7/28/98	Buchardt et al.			
	AC	5,783,682	7/21/98	Cook et al.			
	AD	5,773,571	6/30/98	Nielsen et al.			
	AE	5,641,625	6/24/97	Ecker et al.			
	AF	5,539,082	7/23/96	Nielsen et al.			
	AG	5,470,974	11/28/95	Summerton et al.			
	AH	5,217,866	6/8/93	Summerton et al.			
	AI	5,142,047	8/25/92	Summerton et al.			

Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AJ	WO 99/20643	4/29/99	PCT				
	AK	WO 99/13893	3/25/99	PCT				
	AL	WO 99/13719	3/25/99	PCT				
	AM	WO 99/05302	2/4/99	PCT				
	AN	WO 98/53801	12/3/98	PCT				
	AO	WO 97/41150	11/6/97	PCT				
	AP	WO 97/38013	10/16/97	PCT				
	AQ	WO 96/35705	11/14/96	PCT				
	AR	WO 95/14789	6/1/95	PCT				
	AS	WO 95/04749	2/16/95	PCT				
	AT	WO 95/04748	2/16/95	PCT				
	AU	WO 95/01370	1/12/95	PCT				
	AV	WO 92/20703	11/26/92	PCT				
	AW	WO 92/20702	11/26/92	PCT				

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Other Documents (include Author, Title, Date, and Place of Publication)		
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	AX	Basu S. and Wickstrom E., "Synthesis and Characterization of a Peptide Nucleic Acid Conjugated to a D-Peptide Analog of Insulin-like Growth Factor 1 for Increased Cellular Uptake," <i>Bioconjugate Chem.</i> 8:481-488 (1997)
	AY	Bonham et al., "An Assessment of the Antisense Properties of RNase H-Competent and Steric-Blocking Oligomers," <i>Nucleic Acids Res.</i> 23:1197-1203 (1995)
	AZ	Branch, A.D., "A Good Antisense Molecule is Hard to Find," <i>TIBS</i> 23:45-50 (1998)
	AAA	Corey D.R., "Peptide Nucleic Acids: Expanding the Scope of Nucleic Acid Recognition," <i>Trends in Biotech.</i> 15:224-229 (1997)
	ABB	Crooke, Stanley, "Antisense '97: A Roundtable on the State of the Industry," <i>Nature Biotechnology</i> , p. 519-524 (1997)
	ACC	Crooke, Stanley, "Antisense Research and Applications, Chapter 1, Basic Principles of Antisense Therapeutics, Springer-Verlag Press, Berlin, Heidelberg, New York, p. 2-50 (1998)
	ADD	Demidov V.V. et al., "Stability of Peptide Nucleic Acids in Human Serum and Cellular Extracts," <i>Biochem. Pharmacol.</i> 48:1310-1313 (1994)
	AEE	Ecker, D.J. and Freier, S.M., "PNA, Antisense, and Antimicrobials," <i>Nature Biotechnology</i> 16:332 (1998)
	AFF	Egholm et al., "PNA Hybridizes to Complementary Oligonucleotides Obeying the Watson-Crick Hydrogen-Bonding Rules," <i>Nature</i> 365:566-568 (1993)
	AGG	Faruqi et al., Peptide Nucleic Acid-Targeted Mutagenesis of a Chromosomal Gene in Mouse Cells, <i>Proc. Natl. Acad. Sci. USA</i> 95:1398-1403 (1998)
	AHH	Fraser G.L. et al., "In Vivo Modulation of Gene Expression by a Peptide Nucleic Acid Oligomer Antisense to the δ -Opioid Receptor," Abstracts - <i>Society of Neuroscience</i> 23:267.4 (1997)
	AII	Gambacorti-Passerini C. et al., "In Vitro Transcription and Translation Inhibition by Anti-Promyelocytic Leukemia (PML)/Retinoic Acid Receptor α and Anti-PML Peptide Nucleic Acid," <i>Blood</i> 88:1411-1417 (1996)
	AJJ	Good, L. and Nielsen, P.E., "Antisense Inhibition of Gene Expression in Bacteria by PNA Targeted to mRNA," <i>Nature Biotechnology</i> 16:355-358 (1998)
	AKK	Good L. and Nielsen P.E., "Progress in Developing PNA as a Gene-Targeted Drug," <i>Antisense Nucleic Acid Drug Dev.</i> 7:431-437 (1997)
	ALL	Gray G.D. et al., "Transformed and Immortalized Cellular Uptake of Oligodeoxynucleoside Phosphorothioates, 3'-Alkylamino Oligodeoxynucleotides, 2'-O-methyl Oligoribonucleotides, Oligodeoxynucleoside Methylphosphonates, and Peptide Nucleic Acids," <i>Biochem. Pharmacol.</i> 53:1465-1476 (1997)

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	AMM	Gura, T., "Antisense Has Growing Pains," <i>Science</i> 270:575-577 (1995)
	ANN	Harvey J.C. et al., "Antisense and Antigene Properties of Peptide Nucleic Acids," <i>Science</i> 258:1481-1485 (1992)
	AOO	Hyrup B. and Nielsen P.E., "Peptide Nucleic Acids (PNA): Synthesis, Properties and Potential Applications," <i>Bioorg. Med. Chem.</i> 4:5-23 (1996)
	APP	Knudsen H. and Nielsen P., "Application of Peptide Nucleic Acid in Cancer Therapy," <i>Anti-Cancer Drugs</i> 8:113-118 (1997)
	AQQ	Koppelhus U. et al., "Efficient <i>In Vitro</i> Inhibition of HIV-1 <i>Gag</i> Reverse Transcription by Peptide Nucleic Acid (PNA) at Minimal Ratios of PNA/RNA," <i>Nucleic Acids Res.</i> 25:2167-2173 (1997)
	ARR	Langel I. et al., "Cell Penetrating PNA Constructs," <i>J. Neurochem.</i> 69:B (1997)
	ASS	Mardirossian K. et al., " <i>In Vivo</i> Hybridization of Technetium-99m-Labeled Peptide Nucleic Acid (PNA)," <i>J. Nuc. Med.</i> 38:907-913 (1997)
	ATT	McMahon et al. "Altering behavioral responses and dopamine transporter protein with antisense peptide nucleic acids" (submitted for publication)
	AUU	McMahon et al. "Extracranial injection of antisense peptide nucleic acids targeted to the mu receptor decreases response to morphine and receptor protein levels in rat brain" (submitted for publication)
	AVV	McMahon et al. "Peptide Nucleic Acids Specifically Cause Antigene Effects <i>in vivo</i> by Systemic Injection" (submitted for publication)
	AWW	Monia BP et al., "Antitumour Activity of a Phosphorothioate Antisense Oligodeoxynucleotide Targeted Against C-Raf Kinase," <i>Nat. Med.</i> 2(6):668-675 (1996)
	AXX	Monia BP et al., "Nuclease Resistance and Antisense Activity of Modified Oligonucleotides Targeted to Ha-ras," <i>J. Biol. Chem.</i> 271(24):14533-14540 (1996)
	AYY	Monia BP, "Anti-Tumor Activity of C-Raf Antisense--Correction," <i>Nat. Med.</i> 5(2):127 (1999)
	AZZ	Nielsen P.E. et al., "Peptide Nucleic Acid (PNA). A DNA Mimic With a Peptide Backbone," <i>Bioconjugate Chem.</i> 5:3-7 (1994)
	AAAA	Norton et al., "Inhibition of Human Telomerase Activity By Peptide Nucleic Acids," <i>Nat. Biotech.</i> , 14:615-618 (1996)
	ABBB	Pardridge W.M. et al., "Vector-Mediated Delivery of a Polyamide ([Peptide]) Nucleic Acid Analogue Through the Blood-Brain Barrier <i>In Vivo</i> ," <i>Proc. Natl. Acad. Sci. USA</i> 92:5592-5596 (1995)
	ACCC	Pardridge W.M., "Vector-Mediated Drug Delivery of Antisense Therapeutics Through the Blood-Brain Barrier," <i>J. Neurochem.</i> 69:A (1997)
	ADDD	Peffer N.J. et al., "Strand-Invasion of Duplex DNA by Peptide Nucleic Acid Oligomers," <i>Proc. Natl. Acad. Sci. USA</i> 90:10648-10652 (1993)

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	AEEE	Pooga <i>et al.</i> , "Cell Penetrating PNA Constructs Regulate Galanin Receptor Levels and Modify Pain Transmission In Vivo," <i>Nature Biotech.</i> 16:857-861 (1998)
	AFFF	Praseuth D. <i>et al.</i> , "Peptide Nucleic Acids Directed to the Promoter of the α -Chain of the Interleukin-2 Receptor," <i>Biochim. Biophys. Acta.</i> 1309:226-238 (1996)
	AGGG	Rezaei <i>et al.</i> , <i>Neurochemistry</i> , Vol. 12(2):317-320, 02/2001
	AHHH	Rossi G. <i>et al.</i> , "Blockade of Morphine Analgesia by an Antisense Oligodeoxynucleotide Against the Mu Receptor," <i>Life Sciences</i> 54:PL375-PL379 (1994)
	AIII	Scarfi S. <i>et al.</i> , "Synthesis, Uptake, and Intracellular Metabolism of a Hydrophobic Tetrapeptide-Peptide Nucleic Acid (PNA)-Biotin Molecule," <i>Biochem. Biophys. Res. Commun.</i> 236:323-326 (1997)
	AJJJ	Senior, K., "Going FISHing With Peptide - Nucleic Acid," <i>Molecular Medicine Today</i> , p. 231 (1998)
	AKKK	Soomets <i>et al.</i> , <i>Frontiers in Biosciences</i> Vol. 4:782-786, 11/1/99
	ALLL	Tanaka K. <i>et al.</i> , "Structure and Functional Expression of the Cloned Rat Neurotensin Receptor," <i>Neuron</i> 4:847-854 (1990)
	AMMM	Taylor R.W. <i>et al.</i> , "Selective Inhibition of Mutant Human Mitochondrial DNA Replication <i>In Vitro</i> by Peptide Nucleic Acids," <i>Nat. Genet.</i> 15(2):212-215 (1997)
	ANNN	Tyler B.M. <i>et al.</i> , "Specific Gene Blockade Shows That Peptide Nucleic Acids Readily Enter Neuronal Cells <i>In Vivo</i> ," <i>FEBS Letters</i> 421:280-284 (1998)
	AOOO	Vita N. <i>et al.</i> , "Cloning and Expression of a Complementary DNA Encoding a High Affinity Human Neurotensin Receptor," <i>FEBS Letters</i> 317:139-142 (1993)
	APPP	Wittung P. <i>et al.</i> , "Phospholipid Membrane Permeability of Peptide Nucleic Acid," <i>FEBS Letters</i> 365:27-29 (1995)
	AQQQ	Yazaki T. <i>et al.</i> , "Treatment of Glioblastoma U-87 by Systemic Administration of an Antisense Protein Kinase C- α Phosphorothioate Oligodeoxynucleotide," <i>Mol. Pharm.</i> 50:236-242 (1996)
	ARRR	Crooke <i>et al.</i> , "Pharmacokinetic Properties of Several Novel Oligonucleotide Analogs in Mice," <i>J. Pharm. Exp. Ther.</i> , 1996, 277:923-937
	ASSS	Nielsen, "Peptide Nucleic Acids: On the Road to New Gene Therapeutic Drugs," <i>Pharmacology & Toxicology</i> , 2000, 86:3-7
	ATTT	Tyler <i>et al.</i> , "Peptide nucleic acids delivered extracranially cross the blood brain barrier," <i>Biol. Psychiatry</i> , 1998, 43:37S, No. 121

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